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Notes on the ecology and nesting of the Spangled Kookaburra *Dacelo tyro* in southern New Guinea

by Neil Stronach

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The nest of the Spangled Kookaburra *Dacelo tyro* is described here for the first time. The lack of data on nesting has been noted by Rand (1938), Rand & Gilliard (1967), Bell (1981), Forshaw & Cooper (1983) and Coates (1985). I observed nesting by this species on 2 occasions near the Bensbach River, in the Transfly area of southwestern Papua New Guinea.

The first nest was discovered on 25 Mar 1981 near Km 4.5 on the Balamuk (8°55'S, 141°16'E) to Morehead road. The habitat was mature savanna woodland dominated by *Acacia*, *Melaleuca* and *Alstona*, with scattered small evergreen thickets. The nest was a chamber excavated in an arboreal termitarium, with the entrance at the side of the roughly spherical termitarium, which was c. 45 cm in diameter and attached to the main vertical trunk of a mature *Alstona scholaris* tree, 4 m above the ground. Observations from about 20 m distance showed that the nest

contained at least 2 large young, which called whether or not an adult was nearby. Food items brought to the nest were not identified, neither was there more than one adult in evidence at the nest at any one time.

On 27 Mar 1981 a second nest was discovered c. 3 km east of Balamuk. The habitat was mature closed canopy woodland dominated by *Acacia mangium* and *Melaleuca* spp. The tree canopy was higher and denser than that at the first nest and the evergreen thicket understorey was more continuous, though partly opened up by fires of the previous year. The nest was excavated in an arboreal termitarium, which was spherical and c. 60 cm in diameter, the entrance hole being at the side. The termitarium was situated in the main fork of a mature *Acacia mangium* tree c. 5 m above the ground. The nest contained an undetermined number of young. Adults bringing food visited the nest one at a time.

Local people told Rand (1938) that *D. tyro* used tree holes for nesting, and that the Blue-winged Kookaburra *D. leachii* nested in arboreal termitaria. No *D. leachii* nests were found in the area, although the species is common there. Rand (1938) observed *D. leachii* excavating an arboreal termitarium in September (the dry season); its breeding season around Port Moresby is also during the dry season (Coates 1985). Rand (1938) reports that 6 female *D. tyro* collected in December and January were in breeding condition, including one ready to lay, although none of the males taken at the same time had enlarged testes. Two males collected in southeast Irian Jaya in October were not in breeding condition (G. F. Mees). It is likely that *D. tyro* tends to breed in the wet season and *D. leachii* in the dry season. On the Bensbach River heavy rain can be expected from mid-Dec to end Apr, the remainder of the year having much less rain.

D. tyro is the commonest kookaburra in the Bensbach area, occupying all wooded habitats from open savanna woodland to dense monsoon and riverine forest. *D. leachii* was also observed in all these habitats, but in addition it occupies open grassland with scattered trees, where *D. tyro* was never seen. *D. leachii* was also seen once in the lower storey of dense *Peltophorum* forest at Bulla. In general, however, *D. leachii* occupies more open habitats than *D. tyro* and makes use of more exposed perches. At Bensbach, the Rufous-bellied Kookaburra *D. gaudichaud* was most often seen perched high in the canopy of monsoon and riverine forest, while *D. tyro* spends most of its time in the understorey. Bell (1981) noted that *D. gaudichaud* at Brown River is a bird of the forest canopy. Thus differences in habitat preferences tend to separate the three *Dacelo* species ecologically.

D. tyro was most commonly noted in 3 vegetation types. These were: (1) riverine forest, with or without adjoining *Melaleuca* woodland or *Barringtonia* parkland; (2) strips of *Dillenia alata* thicket which grow along the edges of seasonal swamps, bordered on lower ground by either *Melaleuca* swamp woodland or seasonal open swamp, and on higher ground by mixed savanna woodland or a mosaic of woodland and monsoon forest/thicket; (3) savanna woodland forming a mosaic with monsoon forest and thicket, which occupies a much greater area than the other 2 habitats in the Bensbach area. Hoogerwerf (1964) states that in south-east Irian Jaya *D. tyro* "prefers large complexes of forest and shrubbery",

which may be equivalent to this third habitat type. Ninety per cent of over 300 sightings were equally distributed between these 3 habitat types.

Most observations of *D. tyro* were made in the Bensbach River area as far north and east as Morehead. However, the species was also observed near Dimississi (8°39'S, 142°14'E) in areas of woodland and *Banksia* sp./*Synoga lysicephala* shrubland on poor soils; and at Bimitj (north of Dimississi, 24 km south of the Fly River at D'Albertis Island) in *Melaleuca* woodland bordering an open seasonal watercourse with *Dillenia alata* thicket and *Barringtonia* parkland in close proximity. These records extend the observed range of *D. tyro* further north and east. Hoogerwerf (1964) suggested that Rand's (1942) observations increased the known range (Mayr 1941) of *D. tyro*, but the specimens referred to are the same as those discussed in Rand (1938), all of which were from the area between the Morehead and Wassi Kussa Rivers. Hoogerwerf (1964) provided the first records for southeastern Irian Jaya.

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Commentary on the Melba Finches *Pytilia melba* of Djibouti and the requirement of a specimen for a taxonomic description

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Welch & Welch (1988) recently reported a "new subspecies" of Melba Finch *Pytilia melba* from Djibouti based on a photograph of a bird in the field, but not collected or captured and examined in the hand. Their description (1988) of a new subspecies "*Pytilia melba flavicaudata*" duplicates their earlier description in Welch *et al.* (1986), a privately-